Goal 4.04: Exponential Growth and Decay

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| 1. A population of 130,000 grows 1% per year. How many people would there be after 9 years? | 2. A specific laptop computer costs $1200 in the year 2011. The value of the computer decreases 27% annually. What will be the value of the computer in 2014? |
| 3. The function models the amount of a 15 mg-dose of antibiotic remaining the bloodstream after x hours. Find the amount of antibiotic remaining after 8 hours. | 4. A population of 24,500 people has been increasing at a rate of 1.8% per year. What will be the population in 15 years if it continues at that rate? |
| 5. A lab sample of frogs triples every half hour. If there were 4 frogs at 5:30, how many frogs were there at 7:30? | 6. A $2400 principal investment earns 7% compounded monthly. How much money would there be after 10 years? |
| 1. Jackie bought her car for $20,000 in 2002. She discovered that the value is depreciating by 3.5% each year. She sold the car in 2010. How much less was the car worth from when she bought it? | 8. There is 100 mg of sugar in a can of Coke. The human body eliminates unwanted sugar at a rate of 11% each hour. If you drink 2 cans of Coke at lunch (12pm), how much sugar from the Coke is still in your system when you go to bed (9pm)? |
| 9. Identify the following as growth or decay and tell the growth or decay factor.  a. b. c. d. | |